

What is claimed is:

*See A1*

1. A housing having a thickness, said housing having a first surface and a second surface spaced from said first surface by said housing thickness, said housing having one or more apertures formed through said housing, each of said one or more apertures containing a structure comprising a porous matrix, said structure having a height between said first surface and said second surface limited to said thickness.
2. The housing of claim 1, wherein said porous matrix comprises a plurality of sorptive particles entrapped therein.
3. The housing of claim 1, wherein said porous matrix is polymeric.
4. The housing of claim 1, wherein said structure is functionalized for adsorption.
5. The housing of claim 1, wherein said housing is a planar substrate.
6. The housing of claim 1, wherein said housing is a multi-well plate.
7. The housing of claim 1, wherein said structure is coterminous with said first surface.

8. The housing of claim 7, wherein said structure is coterminous with said second surface.

9. A housing having a thickness, a length and a width, said housing having a first surface and a second surface spaced from said first surface by said housing thickness, the dimensions of said thickness being less than the dimensions of said length and/or said width, said housing having one or more apertures formed through said housing, each of said one or more apertures containing a structure comprising a porous matrix.

10. The housing of claim 9, wherein said porous matrix comprises a plurality of sorptive particles entrapped therein.

11. The housing of claim 9, wherein said porous matrix is polymeric.

12. The housing of claim 9, wherein said structure is functionalized for adsorption.

13. The housing of claim 9, wherein said housing is a planar substrate.

14. The housing of claim 9, wherein said housing is a multi-well plate.

15. The housing of claim 9, wherein said structure is coterminous with said first surface.

16. The housing of claim 15, wherein said structure is coterminous with said second surface.

17. A sample preparation device, comprising a housing having a thickness and a sample reservoir and a collection reservoir spaced from said sample reservoir, and a substrate between said sample reservoir and said collection reservoir, said substrate having a first surface and a second surface spaced from said first surface by said thickness, said substrate comprising one or more recesses formed therethrough, each of said one or more recesses containing a structure comprising a porous matrix, said structure having a height between said first surface and said second surface limited to said thickness.

*Sub 1*  
*Sub 2*

18. The sample preparation device of claim 17, wherein said porous matrix comprises a plurality of sorptive particles.

19. The sample preparation device of claim 17, further comprising an underdrain having one or more spouts, each in fluid communication with said one or more recesses of said substrate.

20. The sample preparation device of claim 19, wherein said one or more spouts direct fluid into said collection reservoir.

21. The sample preparation device of 19, wherein said sample reservoir and said underdrain are bonded to said substrate.

22. The sample preparation device of claim 17, wherein said porous structure is coterminous with said first surface.

23. The sample preparation device of claim 22, wherein said porous structure is coterminous with said second surface.

24. The sample preparation device of claim 17, wherein said substrate is removable from said housing.

25. A method of direct spectrometric analysis of a sample, comprising:

- (a) providing a housing having a first surface and a second surface spaced from said first surface, said housing having one or more apertures formed between and communicating with said first and second surfaces, each of said one or more apertures containing a structure comprising a plurality of sorptive particles entrapped in a porous matrix;
- (b) introducing a sample onto said structure;

- (c) causing a first portion of said sample to pass through said structure and out of said housing and a second portion of said sample to bind to said structure; and
- (d) analyzing said second portion of said sample.

26. The method of claim 25, further comprising, after step (c), coating said structure with a MALDI time-of-flight matrix, and positioning said housing in a spectrometer for analysis of said second portion of said sample without eluting said second portion from said structure.

27. The method of claim 25, wherein said analysis is carried out with a MALDI time-of-flight mass spectrometer.

28. A method of forming a sample preparation device, comprising: providing a housing having a sample reservoir and a collection reservoir spaced from said sample reservoir; providing a substrate having a first surface and a second surface spaced from said first surface, said substrate comprising one or more recesses formed therethrough, each of said one or more recesses containing a structure comprising a porous matrix; inserting said substrate into said housing between said sample reservoir and said collection reservoir; and sealing said substrate in said housing.

29. The method of claim 28, further comprising introducing a sample into said sample reservoir and causing a first

portion of said sample to pass through said structure and into said collection reservoir and a second portion of said sample to bind to said structure.

30. The method of claim 28, further comprising removing said substrate from said housing and inserting into said housing a different substrate.

31. A sample preparation device for use with a chamber in communication with a driving force, said device comprising: a sample reservoir; a substrate fixed to said sample reservoir, said substrate having a first surface and a second surface spaced from said first surface, said substrate comprising at least one recess formed therethrough, said at least one recess containing a structure comprising a porous matrix; and a spout fixed to said at least one recess for directing flow into said chamber.

32. The sample preparation device of claim 31, wherein said substrate comprises a plurality of recesses.